

Amendments to the Claims

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Cancelled)

2. (Currently Amended) A method for producing a modified oilseed material comprising:

extracting oilseed material with an aqueous solution to form a suspension of particulate matter in an oilseed extract; and

passing the extract through a filtration system including a microporous membrane to produce a permeate and a protein-enriched retentate, wherein the microporous membrane has a filtering surface with a contact angle of no more than 30 degrees ; and

drying the retentate to form a modified oilseed material.

3. (Cancelled)

4. (Previously Presented) The method of claim 2 wherein the aqueous solution has a pH of about 7.0 to 9.5.

5. (Previously Presented) The method of claim 2 wherein the microporous membrane has an MWCO of about 25,000 to 500,000.

6. (Previously Presented) The method of claim 2 wherein the passing step comprises passing the extract through the filtration system under a transmembrane pressure of no more than about 50 psig.

7. (Previously Presented) The method of claim 2 wherein the passing step comprises passing the extract through the filtration system at about 55°C to 60°C.

8. (Previously Presented) The method of claim 2 wherein the protein-enriched retentate includes at least about 90 wt % (dsb) protein.

9. (Currently Amended) The method of claim 2, further A method for producing a modified oilseed material comprising:

~~extracting oilseed material with an aqueous solution to form a mixture of particulate matter in an extract solution;~~

removing at least a portion of the particulate matter from the suspension mixture to form a clarified extract; and

~~passing the clarified extract through a filtration system including a microporous membrane to produce a permeate and a protein-enriched retentate, wherein the microporous membrane has a filtering surface with a contact angle of no more than about 30 degrees.~~

10. (Previously Presented) The method of claim 9 wherein passing the clarified extract through the filtration system comprises first passing an original volume of the extract through the filtration system while adding water to the extract in a feed tank so as to substantially maintain the original volume; and subsequently passing the extract through the filtration system while allowing the retentate to be concentrated by a factor of at least 2.5 relative to the original volume.

11. – 12. (Cancelled)

13. (Currently Amended) The method of claim 9 2 wherein the passing step comprises diafiltering the protein-enriched retentate through the filtration system to produce a

diafiltration retentate and a diafiltration permeate, and the diafiltration retentate includes protein-enriched dissolved solids.

14. (Currently Amended) The method of claim 9 2 wherein the protein-enriched retentate has no more than about 7000 mg/kg (dsb) sodium ions.

15. (Currently Amended) The method of claim 9 2 wherein the oilseed material comprises soybean material.

16. (Cancelled)

17. (Currently Amended) The method of claim 9 2 wherein the passing step comprises first passing the extract through the filtration system to form a concentrated retentate; and

subsequently passing the concentrated retentate through the filtration system while adding water to the concentrated retentate so as to substantially maintain the volume of the retentate.

18. – 20. (Cancelled)

21. (Currently Amended) The method of claim 9 2 wherein the extracting step is a continuous, multistage extraction operation.

22. (Previously Presented) The method of claim 9 wherein the clarified extract has a dissolved solids content of at least 5 wt. %.

23. (Currently Amended) The method of claim 9 2 wherein the aqueous solution is an aqueous alkaline solution having a pH of about 6.5 to 10.0.

24. (Currently Amended) The method of claim 9 2 further comprising heating the retentate to at least 75°C for a sufficient time to form a pasteurized retentate.

25. (Currently Amended) The method of claim 9 2 wherein the microporous membrane is a modified polyacrylonitrile membrane.

26. (Currently Amended) A method for producing a modified oilseed material comprising:

extracting oilseed material with an aqueous solution having a pH of 6.5 to 10 at about 20°C to 60°C to form a mixture of particulate matter in an extract solution;

removing at least a portion of the particulate matter from the mixture to form a clarified extract; and

passing the clarified extract at 55° to 65°C through a filtration system under a transmembrane pressure of no more than about 50 psig to produce a permeate and a protein-enriched retentate, wherein the filtration system includes a microporous membrane having an MWCO of 25,000 to 500,000, and a filtering surface with a contact angle of no more than about 40 degrees;

heating the protein-enriched retentate to at least 75°C for sufficient time to form a pasteurized retentate; and

drying the retentate to form a modified oilseed material having no more than about 12 wt. % moisture.

27. (Cancelled.)

28. (Previously Presented) The method of claim 26 wherein the extracting step comprises extracting the oilseed material with the aqueous solution for no more than about 30 minutes.

29. (Previously Presented) The method of claim 26 wherein the extracting step comprises extracting the oilseed material in a multistage operation which includes extracting the oilseed material in an initial extraction stage with a protein-rich liquor stream from a subsequent extraction stage having a pH of about 6.5 to 7.5; and extracting the oilseed material in a final extraction stage with an aqueous solution having a pH of about 8.0 to 9.0.

30. (Previously Presented) The method of claim 26 wherein the extracting step is a continuous, multistage process with an apparent contact time of no more than 20 minutes.

31. (Previously Presented) The method of claim 26 wherein the extracting step comprises extracting the oilseed material in a multistage countercurrent operation which includes heating a protein-rich extract from a selected stage to at least about 75°C to form a heat-treated extract; and extracting oilseed material with the heat-treated extract in a different extraction stage.

32. (Previously Presented) The method of claim 26 wherein passing the clarified extract through the filtration system comprises first passing an original volume of the extract through the filtration system while adding water to the extract in a feed tank so as to substantially maintain the original volume, and subsequently passing the extract through the filtration system while allowing the retentate to be concentrated by a factor of at least 2.5 relative to the original volume.

33. (New) The method of claim 2, wherein the modified oilseed material is dried to include no more than about 12 wt. % moisture.

34. (New) The method of claim 2, wherein the modified oilseed material is dried to include no more than about 8 wt. % moisture.

35. (New) The method of claim 2, further comprising grinding the modified oilseed material to form free-flowing solid particles.

36. (New) The method of claim 35, wherein at least about 95 wt. % of the free-flowing solid particles have a size of no more than 10 mesh.

37. (New) The method of claim 2, wherein drying the retentate comprises spray drying.

38. (New) The method of claim 37, wherein the modified oilseed material is dried to include no more than about 10 wt. % water.

39. (New) The method of claim 37, wherein the modified oilseed material is dried to include no more than about 6 wt. % water.

40. (New) The method of claim 2, further comprising adjusting the pH of the retentate from pH 6.5 to pH 7.5 prior to drying.

41. (New) The method of claim 2, further comprising adjusting the pH of the retentate from pH 6.7 to pH 7.2 prior to drying.